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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,696	07/16/2007	Kazumasa Takeuchi	1303.46565X00	3031

20457 7590 08/17/2009

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EXAMINER
THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
08/17/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/591,696	TAKEUCHI ET AL.	
	Examiner	Art Unit	
	Camie S. Thompson	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment filed 4/15/09*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6 and 8-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6 and 9-18* is/are rejected.

7)☒ Claim(s) *8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/21/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed July 7, 2009 are acknowledged.

2. The rejection of claims 1-2, 5, 9-11 and 14-18 under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al., U.S. Patent Number 7,138,174 is withdrawn due to applicant's argument.

3. The rejection of claims 1-2, 6, 9-11 and 14-18 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over U.S. Patent Number 7,138,174 is withdrawn due to applicant's argument.

Claim Rejections - 35 USC § 103

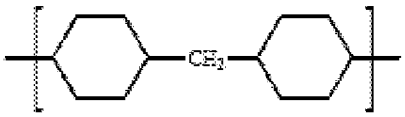
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 6, 9-10, 12, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saitou et al., U.S Pre Grant Publication 2003/0094232 in view of JP 06-256515.

Saitou discloses a method of preparing a prepreg comprising a thermosetting resin impregnated into a fiber base wherein the fiber base is a glass woven fabric or glass non-woven fabric as per instant claim 18(see column 3, lines 23-39). Additionally, Saitou discloses that fiber base material has a thickness of 50 to 200 microns (see column 8, lines 25-27). It is disclosed in column 8, lines 41-58 that the thermosetting resin includes a polyimide applied to an

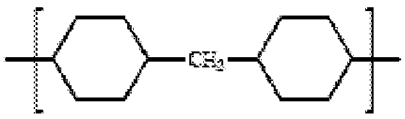
epoxy resin that has two or more glycidyl groups as per instant claim 10. Column 8, line 59-68 discloses the use of a hindered phenol in the resin composition as per instant claim 12. It is disclosed in column 2, lines 5-8 that the prepreg is used in a metal clad laminated board and a printed wiring board as per instant claims 15-16. Saitou only teaches that the thermosetting resin be a polyimide resin generically [0058]; it does not disclose a polyimide that comprising a structure represented by present chemical formula 1.

The Japanese reference discloses an adhesive sheet containing an imide resin wherein the sheet is useful for metal clad laminated boards. The Japanese reference also discloses that the imide resin has a structure that contains the structure  (see paragraph 0030). The Japanese reference discloses that the imide resin has a low dielectric constant and excellent flexibility. Therefore, it would have been obvious to one of ordinary skill in the art to use the resin of the Japanese reference for impregnation into the fiber base of the Saitou reference in order to have a metal clad laminated board with high dimensional stability.

6. Claims 1-2, 9, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saitou et al., U.S. Pre Grant Publication 2003/0094232 in view of Tokuhisa et al., U.S. Pre Grant Publication 2003/0212245.

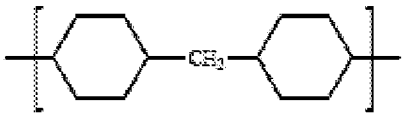
Saitou discloses a method of preparing a prepreg comprising a thermosetting resin impregnated into a fiber base wherein the fiber base is a glass woven fabric or glass non-woven fabric as per instant claim 18(see column 3, lines 23-39). Additionally, Saitou discloses that

fiber base material has a thickness of 50 to 200 microns (see column 8, lines 25-27). It is disclosed in column 8, lines 41-58 that the thermosetting resin includes a polyimide applied to an epoxy resin that has two or more glycidyl groups as per instant claim 10. Column 8, line 59-68 discloses the use of a hindered phenol in the resin composition as per instant claim 12. It is disclosed in column 2, lines 5-8 that the prepreg is used in a metal clad laminated board and a printed wiring board as per instant claims 15-16. Saitou only teaches that the thermosetting resin be a polyimide resin generically [0058]; it does not disclose a polyimide that comprising a structure represented by present chemical formula 1.

Tokahisa discloses siloxane modified polyamide resins which are useful in printed circuit boards and metal clad laminated boards (see paragraph 0001-0002). Tokahisa discloses that the imide resin has a structure that contains the structure  (see paragraph 0008). It is disclosed in paragraph 0006 of the Tokahisa reference that the siloxane modified polyamide resin has improved heat resistance. Therefore, it would have been obvious to one of ordinary skill in the art to use the siloxane modified polyamide resin in the Saitou reference in order to have a printed circuit board that has high dimensional stability at high temperatures due to the prepreg having improved heat resistance.

7. Claims 11, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saitou et al., U.S. pre Grant Publication 2003/0094232 in view of Tokahisa et al., U.S. Pre Grant Publication 2003/0212245 and in further view of Suzuki et al., U.S. Patent Number 5,395,870.

Saitou discloses a method of preparing a prepreg comprising a thermosetting resin impregnated into a fiber base wherein the fiber base is a glass woven fabric or glass non-woven fabric as per instant claim 18(see column 3, lines 23-39). Additionally, Saitou discloses that fiber base material has a thickness of 50 to 200 microns (see column 8, lines 25-27). It is disclosed in column 8, lines 41-58 that the thermosetting resin includes a polyimide applied to an epoxy resin that has two or more glycidyl groups as per instant claim 10. Column 8, line 59-68 discloses the use of a hindered phenol in the resin composition as per instant claim 12. It is disclosed in column 2, lines 5-8 that the prepreg is used in a metal clad laminated board and a printed wiring board as per instant claims 15-16. Saitou only teaches that the thermosetting resin be a polyimide resin generically [0058]; it does not disclose a polyimide that comprising a structure represented by present chemical formula 1.

The Japanese reference discloses an adhesive sheet containing an imide resin wherein the sheet is useful for metal clad laminated boards. The Japanese reference also discloses that the imide resin has a structure that contains the structure  (see paragraph 0030). The Japanese reference discloses that the imide resin has a low dielectric constant and excellent flexibility. Therefore, it would have been obvious to one of ordinary skill in the art to use the resin of the Japanese reference for impregnation into the fiber base of the Saitou reference in order to have a metal clad laminated board with high dimensional stability.

Neither Saitou nor the Japanese reference discloses phosphorus containing compound and an antioxidant in the resin composition. Also, neither Saitou nor the Japanese reference disclose

that the plyamideimide resin contains at least 70 mol% of a polyamideimide molecule having at least 10 amide groups in the molecule. Suzuki discloses that the average molecular weight of the polyamide is between 500 and 3,000, which can include at least 10 amide groups.

Suzuki discloses a resin composition used for electronic devices wherein the composition comprises a polyamideimide elastomer, a phosphorus containing compound used as an accelerator, an antioxidant as required by present claim 13 and a fibrous base such as glass fiber (see column 10). Suzuki discloses that the average molecular weight of the polyamide is between 500 and 3,000, which can include at least 10 amide groups in the molecule (see column 6, lines 52-59). Suzuki discloses that the resin composition has an excellent antistatic property. Therefore, it would have been obvious to one of ordinary skill in the art to have the phosphorus containing compound and the antioxidant in the resin composition of the Saitou reference in order to have a printed circuit board that has antistatic properties.

Allowable Subject Matter

8. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not provide for the recited prepreg further including a resin represented by general formula 9. The closest prior art, Takeuchi, fails to teach or suggest a prepreg having a resin with general structure 9 as required by the present claims.

Response to Arguments

9. Applicant's arguments with respect to the present claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camie S. Thompson whose telephone number is 571-272-1530. The examiner can normally be reached on Monday-Friday 8:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794

/Camie S Thompson/
Examiner, Art Unit 1794